V6 FOR A REALISTIC INDUSTRY EXPERIENCE

Several years of collaboration with educators across various institutions and disciplines have led to the creation of a flexible and tailored set of open software. V6 for Academia is a suite of world-class integrated software: CATIA® for product design, DELMIA® for digital manufacturing, SIMULIA® for realistic simulation, and ENOVIA® for collaborative innovation.

SCALABLE PACKAGE SIZES TO MEET YOUR GROWING NEEDS

All packages are available in four sizes (S, M, L, XL) to meet the needs of diverse institutions in higher and secondary education:

- **Small** – for up to 30 users
- **Medium** – for up to 100 users
- **Large** – for up to 300 users
- **Extra Large** – for up to 900 users

A RICH, INTER-DISCIPLINARY PLATFORM

- Inter-disciplinary learning environment, combining broad subsets of Dassault Systèmes Industry leading PLM software
- Designed to enable collaboration, design in context, work package-based engineering and many other industry required practices
- Ubiquitous homework and student contribution traceability with robust control tools
- Addressing all levels and specialized skill categories expected by employers
ESSENTIALS

ENTRY POINT FOR ALL LEARNING ACTIVITIES

Essentials is a single integrated software package combining many capabilities: design software (CAD), market-leading manufacturing (CAM) and robot programming tools, easy-to-use structural analysis (CAE), and collaborative product data management (PDM) in a fully integrated package. In V6, CATIA, DELMIA, SIMULIA and ENOVIA combined are as affordable as the most popular CATIA V5 educational package.

CATIA FOR INTEGRATED PRODUCT DESIGN
- 3D surface, feature based and solid modeling, 2D drawing, easy assembly modeling, powerful kinematics simulation and space analysis
- Easy capture and replay of design rules, replay of self designed applications
- Functional and sheet metal modeling functions for rapid design of your own on-demand parts
- Intuitive industrial design tools for teaching how to bring emotional appeal into product engineering
- Quick and easy direct modeling

DELMIA FOR DIGITAL MANUFACTURING
- Market-leading manufacturing functions
- Machine simulation, lathe and milling NC programming
- Game-like assembly planning, robotic programming
- Native product and process integration for inter-disciplinary courses
**SIMULIA FOR REALISTIC SIMULATION**
- Popular SIMULIA structural analysis, including world class ABAQUS technology
- Part validation for non-specialists
- Automated mesh
- Validate a part required for student projects or experimental devices

**ENOVIA FOR COLLABORATIVE INNOVATION**
- Controlled collaborative environment for classrooms, dispersed students, or partners
- Teaching actual collaborative industry methods for global collective innovation
- Optimizing educational processes
- Teach, learn anywhere
- Assembling, modularizing, reusing course material
- Attributing content to respective authors in team projects
- Remotely managing theses and reports with rich 3D content
- Co-designing, remote coaching
DESIGN AND ENGINEERING

Design and Engineering extends the Essentials package and creates a complete advanced environment for design and engineering of products and manufacturing resources. It groups capabilities to automate the modeling of parts that will be produced using specific manufacturing processes, such as sheet metal, composite, and molding, or routed systems made of pipes, tubes, and wires. The solution also automates the associative design of tooling which is required to actually produce such parts and systems.

CATIA Design
- Advanced style and concept modeling
- Reverse engineering
- 3D functional tolerancing
- Automated manufacturing features for plastic and fabricated parts
- Structure Design (e.g., shipbuilding) Piping, tubing
- Composite design
- Intuitive, no-coding creation of applications for customized teaching
- Class A surfacing including world class ICEM technology
- Manufacturing preparation for cast and forged parts
- Body in white, jigs and tooling
- Composite manufacture
- Generative piping and tubing
- Electrical design, generative electrical design
- Electrical harness design
- Electro-mechanical circuit board

SIMULIA
- Nonlinear static stress simulation of assemblies
- Thermal simulation of components
**SYSTEMS ENGINEERING**

*Systems Engineering* extends the *Essentials* package and offers complete advanced capabilities for systems engineering. It groups a rich set of functions essential for concurrently designing and simulating various types of objects using models that optimize their geometry and their function. Indispensable to modeling modern electromechanical systems, simulating their behavior, and optimizing smart products, *Systems Engineering* comes with numerous libraries describing the physics of diverse technologies and phenomena. Open to other simulation systems, it provides a comprehensive multiphysics design, simulation, and optimization framework for any mechatronic or systems engineering course. Real electromechanical systems, whether programmable or not, can be completely virtualized, connected, and controlled using the solution, reflecting software-in-the-loop and hardware-in-the-loop methodologies.

These characteristics open the immense field of virtual labs, tele-operated learning devices, and “flip lab” practices.

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**CATIA Systems**

- Integrates world class DYMOLA behavior modeling technology
- Create models of electro-mechanical systems, simulate their dynamic behavior
- 3D Architecture of Logical Systems
- Hybrid mechatronic simulation
- Full traceability with native PLM integration
- Open to different simulation environments through standard interface
- Export to popular dynamic systems simulation software
- Predefined libraries of specialized behaviors for modeling and simulating complex interdisciplinary systems
- Export models to perform ‘Hardware in the Loop’ simulations
- Generate source code from systems behavior models to validate them on hardware platforms
- Optimize system behaviors
MANUFACTURING AND PRODUCTION

Manufacturing and Production extends the Essentials package to digital manufacturing for Industrial or Manufacturing engineering programs. This extended set of functions enables the design, simulation, automation, and control of sophisticated part production as well as assembly-level production. From off-line robots programming to producing ergonomic operator’s instructions, from optimizing automated production cells to balancing complete lines, Manufacturing and Production provides students with an ideal environment to experience methods practiced and required by various industries operating small facilities to large multi-plant production.

DELMIA

- Create virtual mechanical devices for use in downstream planning and simulation
- Create virtual NC machines, accessories, and controllers
- Advanced layout capabilities for manufacturing planning
- Welding robot management
- Ergonomic task definition, analysis, and evaluation
- Extended multi-axis milling machining definition and simulation
- 3D virtual commissioning of control logic
- Create virtual devices for use in control engineering
- Process planning capabilities for various manufacturing industries
- Assign defined processes and their associated parts to a manufacturing resource
- Perform product assembly feasibility studies through simulation
- Immersive environment to detail and document any process
- Dynamic evaluation and improvement of manufacturing systems and material flow
GOVERNANCE AND PROJECT MANAGEMENT

Governance and Project Management extends the Essentials package with numerous organizational and work process related tools. It targets any educational activity where the development of technical managerial skills is a desired learning outcome. It also provides educators with powerful tools to control and manage their teaching and research processes. A group work and deliverable management framework is provided to automate academic work processes, to conduct multi-disciplinary, and potentially multi-year, projects such as engineering student competitions or to teach typical engineering management procedures.

ENOVIA
- Collaborative project management
- Advanced resource management
- Project dashboard
- Work breakdown structure
- Task deliverables
- Issue and risk management
- Enables role-based collaboration on digital mockups
A large set of adoption-facilitating instruments is made available to enable fast deployments of the 3DEXPERIENCE for Academia. Various types of learning materials and application case studies are provided to all academic users. The communication program (“3DS Academy member”) helps institutions to show employers that they teach with up-to-date technology. A brand new certification program provides students with the credentials they need. With industry-realistic learning material, the 3DS Academy member, and the certification programs, educational institutions can rely on a comprehensive set of employability-enhancing initiatives.

To learn more about the 3DEXPERIENCE for Academia, visit ACADEMY.3DS.COM